

Conversions of Iron Carbide Under the  
Conditions of the Synthesis of Hydrocarbons  
From Carbon Monoxide and Hydrogen

S/195/60/001/002/006/010  
B004/B067

carbide (90%); hydrogenation to methane, exchange of C isotopes between CO and carbide. The rate of these reactions is low as compared to that of the synthesis reaction. Of 3000 CO molecules, only one exchanges its carbon; of 3000 CH<sub>4</sub> molecules, only five are formed by carbide hydrogenation. Hence, only 0.03% of the hydrocarbons with C > 1 was formed under the action of carbide. These data rebut the hypothesis according to which carbide products are intermediates in hydrocarbon synthesis from CO and H<sub>2</sub>. There are 2 figures, 2 tables, and 22 references: 13 Soviet, 5 US, 1 British, and 3 German. ✓

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR (Institute of Petrochemical Synthesis of the AS USSR)

SUBMITTED: January 23, 1960

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KAGAN, Yu.B.; ROZOVSKIY A. Ya.; KRYUKOV, Yu.B.

Mechanism of the action of fused iron catalysts in the synthesis of organic compounds from CO and H<sub>2</sub>. Kin. 1 kat. 2 no.1:55-60 Ja-F '61.

(MIRA 14:3)

1. Institut neftekhimicheskogo sinteza AN SSSR.  
(Carbon monoxide) (Hydrogen) (Catalysis) (Iron)

33496

S/195/61/002/005/023/027  
E040/E185

5.1190

AUTHORS: Kryukov, Yu.B., Bashkirov, A.N., Liberov, L.G.,  
Butyugin, V.K., and Stepanova, N.D.

TITLE: On the mechanism of chain growth in the synthesis of  
organic compounds from CO and H<sub>2</sub> on iron catalysts

PERIODICAL: Kinetika i kataliz, v.2, no.5, 1961, 780-787

TEXT: A brief survey of the previous investigations of the  
synthesis of organic compounds from CO and H<sub>2</sub> mixtures on cobalt  
and iron catalysts showed that the mechanism of the chain growth  
can be visualised either as 1) condensation of oxygen-containing  
complexes, with separation of water, or 2) the growth of the  
carbon chain can be assumed as being preceded by the splitting off  
of oxygen atoms from the carbon monoxide molecule and a subsequent  
chain growth by the mechanism of polymerisation of methyl  
radicals. The experimental evidence at present available appears  
to be somewhat contradictory and for this reason a study was made  
of the role played in the above synthesis by oxygen-free  
intermediate complexes of the methyl and hydrocarbon type

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EO40/E185

On the mechanism of chain growth...

radicals. The study was made with the help of radioisotope tracer technique using carbon monoxide labelled with  $C^{14}$  carbon (9000 pulse/min per m<sup>3</sup>). In the tests, a mixture of  $C^{14}O + H_2$  (in the 1:1 by volume ratio) was passed over freshly prepared iron catalyst heated to 295 °C, the reaction was allowed to proceed for various periods and the products were then separated. The radioactivity of the separated hydrocarbons was then plotted against the reaction time and the number of carbon atoms in the synthesised hydrocarbons. The results obtained indicated that both the condensation and polymerisation mechanisms are involved in the synthesis of the products. The actual mechanism prevailing at any stage of the reaction was found to depend on the experimental conditions. A general scheme was formulated for the various reactions that can occur when a stream of carbon monoxide/hydrogen mixture is passed over iron catalyst heated to about 300 °C:

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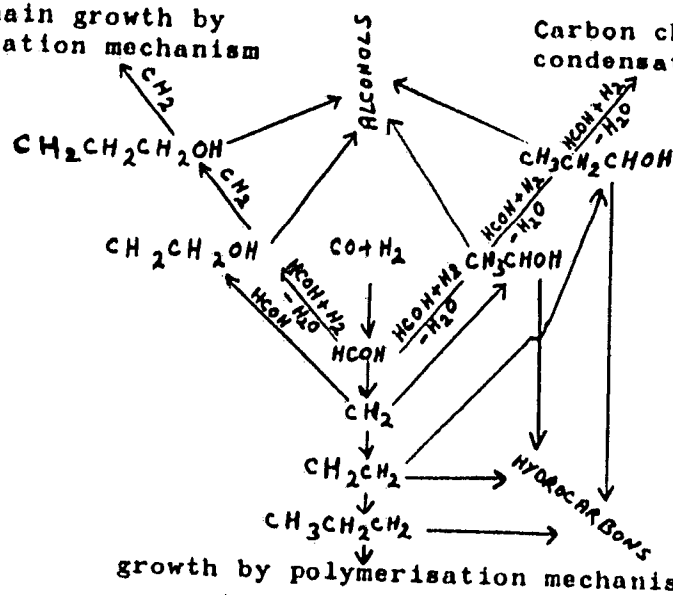
33496

On the mechanism of chain growth ...

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E040/F185

Carbon chain growth by  
polymerisation mechanism

Carbon chain growth by  
condensation mechanism



Scheme 2

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On the mechanism of chain growth ....

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E040/E185

There are 4 figures, 2 schemes and 20 references: 11 Soviet-bloc and 9 non-Soviet-bloc. The four most recent English language references read as follows;

Ref.12: E.J. Gibson, Chem. and Ind., 649, 1957.

Ref.15: G. Blyholder, P.H. Emmett,  
J.Phys.Chem., v.63, 962, 1959.

Ref.17: G. Blyholder, P.H. Emmett,  
J.Phys.Chem., v.64, 470, 1960.

Ref.18: W.K. Hall, R.J. Cokes, P.H. Emmett,  
J.Amer.Chem.Soc., v.82, 1027, 1960.

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR  
(Institute of Petrochemical Synthesis, AS USSR)

Card 4/4

ROZOVSKIY, A.Ya.; BIRYUKOVICH, M.M.; IVANOV, A.A.; LIBEROV, L.G.;  
BUTYUGIN, V.K.; KAGAN, Yu.B.; KRYUKOV, Yu.B.; BASHKIROV, A.N.

Mechanism of the carbide-forming reaction of fused iron  
catalysts for synthesis from CO and H<sub>2</sub>. Neftekhimia  
3 no.1:97-103 Ja-F '63. (MIRA 16:2)  
(Iron catalysts) (Iron carbides)  
(Chemistry, Organic—Synthesis)

KRYUKOV, Yu.B.; SMIRNOVA, R.M.; SELIZNEV, V.A.; KAMZOLKIN, V.V.;  
BASHKIROV, A.N.

Intermediate stages in the liquid phase oxidation of secondary  
alcohols to ketones. Neftekhimiia 3 no.2:238-245 Mr-Apr '63.  
(MIRA 16'5)

1. Institut neftekhimicheskogo sinteza AN SSSR imeni A.V.Topchiyeva.  
(Alcohols) (Oxidation) (Ketones)



SANIN, P.I.; KRYUKOV, Yu.B.

Sixth World Petroleum Congress. *Neftokhimiia* 3 no.6:928-934  
N-D '63. (MIRA 17:3)

KHUYUKOV, Yu.B.

Sixth International Oil Congress. Use of oil refining products  
and natural gas. Neftokhimiya. 4 no.2:354-357 Nr-Apr'64  
(MIRA 17:8)

KAMZOLKIN, V.V.; KRYUKOV, Yu.B.; KAGAN, Yu.B.

Prospective trend of the petroleum chemistry. Vest. AN SSSR 34  
no.11:60-65 N '64. (MIRA 17:12)

1. Institut neftekhimicheskogo sinteza im. A.V. Topchiyeva AN SSSR.

hydrogenation, hydrogen exchange, deuterium, radiocarbon, alcohol dehydration

... affected by reaction ... 400

KOLESNIKOVA, L.P.; SIMONYANTS, Ye.G.; KRYUKOV, Yu.B.

Chromatographic determination of  $C_1 - C_5$  alcohols in mixtures  
of aliphatic hydrocarbons and oxygen-containing compounds.  
Zav. lab. 31 no.11:1330 '65. (MIRA 19:1)

1. Institut neftekhimicheskogo sinteza AN SSSR.

9.2560

21.849

S/106/60/000/004/004/007  
A055/A133

AUTHORS: Gribov, E. B., and Kryukov, Yu. G.

TITLE: Calculation of transistorized phase inverting stage

PERIODICAL: Elektrosvyaz', no. 4, 1960, 21 - 28

TEXT: The authors deal with the design and calculation of transistorized phase inverting circuits, a problem as yet insufficiently treated in the literature. Choice of the basic circuit. - When a transistorized output push-pull stage operates in class B, the following formula can be considered correct (if higher frequency components are neglected):

$$K_f = \frac{I_2}{I_1} \approx 0.424 \frac{U_{in1} S_1 - U_{in2} S_2}{U_{in1} S_1 + U_{in2} S_2} \quad (4)$$

$I_1$  and  $I_2$  being, respectively, the amplitudes of the first and second harmonics of the output current (in the load), and  $S_1$  and  $S_2$  the steepness of the transistor characteristics. In order to obtain small nonlinear distortions, due only to the nonlinearity of the transistor characteristics, the following condition must be satisfied;

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$$\frac{U_{inpl}}{U_{inp2}} = \frac{S_2}{S_1} \quad (5)$$

Therefore, if nonidentical transistors are used, different voltages must be applied to the arms of the output stage. The basic circuit of a phase inverter permitting condition (5) to be satisfied is shown in Fig. 1. The output resistance of the preceding stage is represented here by  $R_g$ . Resistances  $R_{1k}$  and  $R_{1e}$  are equivalent to the input resistance of the push-pull stage arms. It is to be noted that these resistances are not equal in the working and nonworking half-periods of the voltage. To simplify, it is assumed that in the nonworking half-period they are equal to infinity. Equivalent circuit. - The authors examine the equivalent circuit of the phase inverting stage, using "hybrid" parameters of transistors connected in common-emitter arrangement (Fig. 2). It follows from this equivalent circuit that:

$$U_1 = (h_{11}^e + R_e)i_1 + (h_{12}^e R_1 + R_e)i_2, \quad (6)$$

$$0 = (R_e - \frac{h_{21}^e}{h_{22}^e})i_1 + (\frac{1}{h_{22}^e} + R_1 + R_e)i_2. \quad (7)$$

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On the basis of (6) and (7), the following expression is obtained after transformations and simplifications:

$$i_2 \approx \frac{U_1 h_{21}^e}{R_e (h_{21}^e + 1) + h_{11}^e} \quad (8')$$

It is possible to state that  $R_e h_{21}^e \gg h_{11}^e$  and  $h_{21}^e \gg 1$ ; then:

$$i_b = \frac{U_1}{R_e} \quad (8'')$$

and

$$i_1 = \frac{i_2}{h_{21}^e} = \frac{U_1}{R_e h_{21}^e}. \quad (13)$$

Consequently:

$$R_{1np} \approx h_{21}^e R_e. \quad (14)$$

The authors proceed next to express the push-pull stage input voltages  $U_{in1}$  and  $U_{in2}$  as a function of the generator's emf  $E_g$ . They begin by stating that:

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$$U_1 = \frac{E_g h_{21}^e R_a}{R_g + h_{21}^e R_e} \quad (16)$$

where

$$\varphi = 1 + \frac{R_g}{R_b} \quad \text{and} \quad R_b = \frac{R_{b1} R_{b2}}{R_{b1} + R_{b2}}$$

Considering then the working half-period of that one of the output-stage transistors which is connected to the phase-inverter collector, the authors write:

$$R_1 = \frac{R_{1k} R_k}{R_{1k} + R_k} \quad (17)$$

and

$$R_e = R_e^i + R_e^u \quad (18)$$

Using then (8"), (16), (17) and (18), they obtain:

$$U_{inpl} = i_2 R_1 = \frac{E_g h_{21}^e R_k R_{1k}}{[R_g + h_{21}^e (R_e^i + R_e^u)] (R_k + R_{1k})} \quad (19)$$

After introduction of the expressions:

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$$\gamma = \frac{R_k}{R_k + R_{1k}}, \quad (20)$$

$$\beta = \frac{R_b}{R_e''} \quad (21)$$

and

$$B = \frac{R_g}{R_e' \gamma h_{21}} + 1, \quad (23)$$

and after certain simple transformations, formula (19) takes the following form:

$$U_{inpl} = \frac{\gamma R_{1k} E_g \beta}{\varphi R_e' B \beta + 1}. \quad (24)$$

In the other half-period;

$$R_1 = R_k \text{ and } R_e = R_e' + \frac{R_e'' R_{1e}}{R_e'' + R_{1e}}.$$

After introduction of the expression

$$\psi = \frac{R_{1e}}{R_e''} \quad (25)$$

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and after analogous transformations, the authors obtain, using also the equality

$$R_{1e} = R_e' \frac{\psi}{\beta} ;$$

$$U_{1np2} = \frac{E_g \psi}{\psi \beta} \frac{1}{B(1+\psi) + \frac{\psi}{\beta}} . \quad (26')$$

They next examine the condition for obtaining small nonlinear distortions. Substituting (24) and (26') into (5), they arrive at the following relation:

$$\frac{S_2}{S_1} = \gamma \frac{R_{1k}}{R_{1e}} \frac{B\beta(1+\psi) + \psi}{\beta B + 1} . \quad (27)$$

The introduction of the generalized coefficient of the transistor parameters spread

$$\varepsilon = \frac{S_2}{\gamma S_1} \frac{R_{1e}}{R_{1k}}$$

permits the following condition for the balance of even harmonics:

$$\varepsilon = \psi + \frac{\beta B}{\beta B + 1} . \quad (27')$$

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Analysis of (27') shows that the condition set therein can be satisfied for any pair of output-stage transistors by an adequate choice of  $R''_e$ . Thus the balance of even harmonics can be achieved by varying  $R''_e$  alone. Optimum case. - To simplify calculations, the authors consider the so-called optimum case which occurs when the following conditions are satisfied; 1) optimum matching of resistances [Abstracter's note; or impedances?] in the emitter circuit; 2) the generalized spread-coefficient is equal to unity. The power in the load is equal to

$$P_e = \frac{U_{imp2}^2}{R_{1e}}. \quad (29)$$

The first of the two above conditions is satisfied when maximum power is transmitted to the load. Taking this as a starting point, the authors find that the condition for optimum matching can be expressed as;

$$\psi_o = \frac{B_o A_o}{B_o \beta_o + 1}. \quad (31)$$

The second condition, as obtained from (27), is:

$$\psi_o + \frac{B_o \beta_o}{B_o \beta_o + 1} = 1. \quad (32)$$

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Solving together (31) and (32), the authors obtain for the optimum case:

$$\psi_0 = 0.5; B_0 \beta_0 = 1 \quad (33)$$

Stability of the transmission coefficient. - The transmission coefficient of the phase inverter, as obtained from (24) or (25), is:

$$K = \frac{U_{inp2}}{E_g} = \frac{\psi}{B\beta\psi(\psi+1)+\psi\psi'} \quad (35)$$

This formula shows that the stability of the transmission coefficient is influenced by only one of the transistor's parameters, the current amplification factor  $h_{21}^e$  included in B. In the optimum case, (35) becomes:

$$K_0 = \frac{1}{4\psi}. \quad (36)$$

The authors examine the instability of the transmission coefficient in the optimum case. When  $h_{21}^e$  varies, B varies also, and the transmission coefficient becomes:

$$K = \frac{B_0}{\psi(3B-B_0)}. \quad (37)$$

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Calculation of transistorized phase inverting stage

Stating that;

$$h_{21}^e = h_{210}^e + \Delta h_{21}^e, \quad (38)$$

where  $h_{210}^e$  is the amplification factor in the optimum case, and substituting (38) in (23), the authors finally obtain;

$$3B - B_0 = (B_0 - 1)\delta h + 4, \quad (39)$$

where

$$\delta h = \frac{4 + \frac{\Delta h_{21}^e}{h_{210}^e}}{1 + \frac{\Delta h_{21}^e}{h_{210}^e}}$$

Substitution of (39) in (37) gives the instability of the transmission coefficient;

$$\delta K = \frac{K - K_0}{K_0} = \frac{(B_0 - 1)(4 - \delta h)}{(B_0 - 1)\delta h + 4}. \quad (40)$$

Experimental part. - The theoretical formulae derived in this article were checked experimentally on a phase inverter using transistors of the "P13A" type within

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the temperature range  $-50 \div 70^{\circ}\text{C}$ . This experimental investigation permitted the following conclusions: 1) for any one pair of output-stage transistors, the control of  $R_e$  permits obtaining (without resorting to negative feedback) rated output power with a nonlinear distortion coefficient not exceeding 3%. 2) Within the temperature range  $-50 \div 70^{\circ}\text{C}$ , the instability of the phase inverter transmission coefficient does not differ by more than 10% from the value calculated with the aid of formula (40). For "P13A" transistors and  $B_0 = 3$ , this instability does not exceed 7%. 3) The theoretical calculation of  $R_e$  coincides with the experimental results to within 30%, which must be deemed satisfactory. There are 4 figures and 2 Soviet-bloc references. ✓

SUBMITTED: October 29, 1959

Card 10/11



28793

3/106/61/000/010/005/006

A055/A127

9.2520 (1139, 1159, 1161)

AUTHORS: Zavrzhnov, Yu. V., Kryukov, Yu. G.

TITLE: Transistorized wide-band amplifier

PERIODICAL: Elektrosvyaz', no. 10, 1961, 40 - 44

TEXT: The authors describe a transistorized amplifier with cascade connection which permits to obtain, within a wide frequency band and without correcting elements, a higher gain than the known wide-band amplifiers. The amplifier diagram is shown. A peculiar feature of the second stage is the presence, in the base circuit, of a certain resistance  $r$  whose magnitude is determined by the parallel connected resistances  $R_3$  and  $R_4$ . The resistance of the power supply source is neglected, since it is small with respect to  $R_3$ . As proved experimentally, the optimum value of  $r$  is 1 - 2 kilohms. Parallel-series connection is used for the power supply. The d-c operating conditions of  $T_1$  are chosen so as to ensure the highest possible current gain.  $T_2$  operates with small current, which permits to use large values of  $R_1$  without increasing the supply voltage and thus to obtain a considerable voltage gain. The cascade connection permits to reduce considerably the internal feedback and to widen thus the band of the amplified frequencies. An equi-

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# Transistorized wide-band amplifier

valent circuit is used to analyze the amplifier, where  $Z_1 = \frac{R_1 Z_1}{R_1 + Z_1}$ ,  $R_1$  being the  $T_2$  collector circuit resistance and  $Z_1$  the impedance of the external load.  $K_{u0}$  is the voltage gain of the system at 1,000 c/s.  $Y = \frac{R_1 + R_2}{R_1 R_2}$ . For convenience, the parameters of  $T_1$  are designated by  $h_{11}$ ,  $h_{12}$ ,  $h_{21}$ ,  $h_{22}$ , and the parameters of  $T_2$  by  $H_{11}$ ,  $H_{12}$ ,  $H_{21}$  and  $H_{22}$ . To determine the basic parameters of the amplifier, it is necessary to know its  $[A^*]$ -matrix. In Fig. 2, the second stage (without  $R_1$ ) can be represented by the cascade connection of fourpoles 4 and 5, and the series connection of the thus obtained fourpole with fourpole 6. The first stage consists of the cascade connection of fourpole 3 and of the fourpole obtained by parallel connection of fourpoles 1 and 2. On this basis, the author determines the  $[A]$ -matrixes of both stages and, multiplying them, obtains the elements of the amplifier matrix:

$$A_{11}^* = -\frac{h_{11}}{h_{21}} \frac{1}{R_5 H_{21} + r} [Y(H_{11} + r) + 1]; \quad (7)$$

$$A_{12}^* = -\frac{h_{11}}{h_{21}} \frac{R_5 + r}{R_5 H_{21} + r} [YH_{11} + 1 + Y \frac{rR_5}{R_5 + r} (1 - H_{21})]; \quad (8)$$

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$$A_{21}^* = - \frac{1}{h_{21}} \frac{1}{R_5 H_{21} + r} \left[ (Y + h_{22} + \frac{h_{11}}{R_1 R_2} + \frac{h_{21}}{R_2}) (H_{11} + r) + 1 + \frac{h_{11}}{R_2} \right]; \quad (9)$$

$$A_{22}^* = - \frac{1}{h_{21}} \frac{1}{R_5 H_{21} + r} \left\{ (Y + h_{22} + \frac{h_{11}}{R_1 R_2} + \frac{h_{21}}{R_2}) [H_{11} (R_5 + r) + r R_5 (1 - H_{21})] + (1 + \frac{h_{11}}{R_2}) (R_5 + r) \right\}. \quad (10)$$

These elements,  $Z_1^i$  and the output impedance  $Z_o$  of the signal source permit to determine the basic parameters of the amplifier:

$$K_u = \frac{1}{A_{11}^* + \frac{A_{12}^*}{Z_1^i}} \quad (11)$$

$$K_1 = \frac{1}{A_{21}^* Z_1^i + A_{22}^*} \quad (12)$$

$$Z_{inp} = Z_1^i K_1 / K_u \quad (13)$$

$$K_p = K_u K_1 \quad (14)$$

$$Z_{outp} = \frac{Z_1^i (A_{11}^* Z_o + A_{12}^*)}{Z_1^i (A_{11}^* + A_{12}^* Z_o) + (A_{21}^* Z_o + A_{22}^*)}. \quad (15)$$

Calculations with these formulae being rather long, the author gives also simpli-

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fied formulae, valid in the two following particular cases (which are the most usual cases in practice): 1)  $R_2 \gg h_{11}$ :

$$K_u = - \frac{h_{21}(R_5 H_{21} + r) Z_l}{h_{11} \{ (Z_l + R_5) [1 + Y(H_{11} + r)] + r [1 + Y(H_{11} - R_5 H_{21})] \}} \quad (11')$$

$$K_i = - \frac{h_{21}(R_5 H_{21} + r)}{(Y + h_{22} + \frac{h_{11}}{R_1 R_2} + \frac{h_{21}}{R_2}) [H_{11}(Z_l + R_5 + r) + r(Z_l + R_5 - R_5 H_{21})] + Z_l + R_5 + r} \quad (12')$$

2)  $R_2 \gg h_{11}$ ;  $R_5 \rightarrow \infty$ :

$$K_u = - Z_l \frac{h_{21} H_{21}}{h_{11}} \quad (11'') \quad K_i = - h_{21} H_{21} \quad (12'') \quad K_p = \frac{Z_l}{h_{11}} (h_{21} H_{21})^2 \quad (13'')$$

$$Z_{inp} = h_{11} \quad (14'') \quad Z_{outp} = R_1 \quad (15'')$$

An experimental check of formulae (11) - (15) and (11'') - (15'') is briefly described at the end of the article. This check revealed that the discrepancy between the experimentally and theoretically obtained values does not exceed 5 - 7%, which means that the above formulae can be used in the design of amplifiers. The amplifier described in this article can be used in high-quality a-f amplifiers, in

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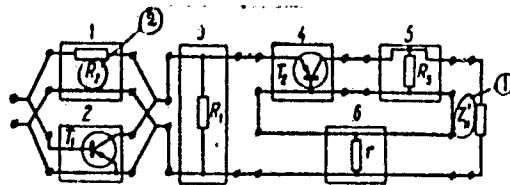
video-amplifiers and also in amplifiers for the observation of bio-currents of the brain, the heart etc. In the analytical part of the article, the author often refers to the work of A. A. Rizkin [Ref. 7: "Osnovy teorii usilitel'nykh skhem" (Fundamentals of the amplifier circuits theory), Izd. Sovetskoye Radio, 1958]. There are 5 figures, 2 tables and 7 references; 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: James. Analysis of the transistor cascade configuration. "Electronic Engineering", 1960, January.

SUBMITTED: June 8, 1961

[Abstracter's note: The following subscripts are translated in formulae and text: l (load) stands for  $H$ ; g stands for  $\gamma$ ]

Fig. 2.

Legend: (1) -  $Z_l$   
(2) -  $R_g$



Puc. 2

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KRYUKOV, Yu.G.; SIMONOV, Yu.L.

Analysis of a cascaded tuned transistor amplifier. Radiotekhnika  
16 no.3:54-59 Mr '61. (MIRA 14:2)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radio-  
tekhniki i elektrosvyazi im. A.S.Popova.  
(Transistor amplifiers)

KRYUKOV, Yu.G.

Analysis of tuned transistor amplifiers with uncompensated feedback. Radiotekhnika 16 no.8:58-66 Ag '61. (MIRA 14:7)

1. Deystvitel'nyy ohlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi.  
(Transistor amplifiers)

32954

S/106/62/000/001/005/009

A055/A101

9.2520 (1139, 1159, 1161)

AUTHORS: Kryukov, Yu.G.; Simonov, Yu.L.

TITLE: Analysis of the transistorized cascode resonance amplifier of the common emitter - common base type

PERIODICAL: Elektrosvyaz', no. 1, 1962, 40 - 44

TEXT: The authors give the essential results of an analysis of the cascode resonance amplifier of the common emitter - common base type. To simplify the analysis, the circuit of this amplifier was replaced by an equivalent triode circuit. The Y-parameters system was used. Multiplying the a-matrices of the transistors and using the formulae for conversion from a-matrix elements to y-matrix elements, the authors obtain the y-matrix of the equivalent triode. With the aid of this matrix, they deduce the expressions giving the voltage amplification factor of the amplifier and, in particular, its voltage amplification factor at resonance. This last expression fully coincides with the analogous expression for the usual single-cascode resonance amplifier with common emitter and y-type neutralization. The cascode amplifier containing two transistors possesses approximately the same amplification properties as the usual neutralized

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3/106/62/000/001/005/009

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Analysis of the transistorized cascode ....

amplifier. The authors next deduce formulae giving the input and output admittances of the cascode resonance amplifier, as well as the output resistance and capacitance of the equivalent triode. The stability conditions of the cascode resonance amplifiers are also examined. The authors reproduce the expressions giving the stability conditions and the limit value of stable amplification in the cases of a one-stage amplifier and of amplifiers containing any number  $n$  of stages. At the end of the article, they briefly describe the amplifier circuit used by them for an experimental check of the results yielded by their theoretical analysis. This check proved that the theoretical results are correct to within about 10%. The conclusion of the authors is that, for increasing the resonance amplifier stability at radio-frequencies, it is advisable to use the cascode connection of transistors of the common emitter - common base type, this mode of connection possessing a much smaller internal feedback than the common emitter connection. The Soviet personalities mentioned in the article are: K.A. Shul'gin, E.N. Garmash and A.A. Rizkin. There are 3 figures, 2 tables and 6 references: 5 Soviet-bloc and 1 non-Soviet bloc.

SUBMITTED. October 12, 1960

Card 2/2

L 31817-66 FSS-2/EWT(1)/EWT(m)/EEC(k)-2/ETC(f)/EWP(j)/T IJP(c) DS/NW/RM/WH  
ACC NR: AP6012439 EWP(e) (A) SOURCE CODE: UR/0364/65/001/012/1476/1479

AUTHOR: Pshenichnikov, A. G.; Kryukov, Yu. I.; Burshteyn, R. Kh.

ORG: Institute of Electrochemistry, Academy of Sciences SSSR (Institut elektrokhimii Akademii nauk SSSR)

TITLE: Electrooxidation of ethylene on electrodes containing Pt-catalysts

SOURCE: Elektrokhimiya, v. 1, no. 12, 1965, 1476-1479

TOPIC TAGS: ethylene, fuel cell, electrochemistry, platinum, catalyst, oxidation

ABSTRACT: Since porous electrodes produce large currents per unit area of the apparent surface in this work, oxidation of ethylene on porous gas-diffusion electrodes containing platinum catalysts was investigated. Experiments were conducted in 14.5 M phosphoric acid at 150-200°C in a teflon cell. The electrodes were produced by depositing a thin film of catalyst with polytrifluoroethylene on the porous graphite plate and baking at 200°C. The following catalysts were used: (1) platinized carbon containing 10% Pt; (2) catalyst similar to (1) but containing 9% Pt and 1% Rh; (3) carbon mixed with 25% Pt reduced with formaldehyde; (4) platinum block reduced with formaldehyde; (5) skeletal platinum catalyst produced by leaching Pt-Li (1:10) alloy; (6) platinum block with 10% Rh, produced by coprecipitation from H<sub>2</sub>PtCl<sub>6</sub> and RhCl<sub>3</sub> solutions. Skeletal platinum and platinum containing 10% Rh produces sufficiently active elec-

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UDC: 541.135.52-44

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trodes. For a catalyst containing 10% Rh at 200°C and  $E=0.55$  volt, current density reaches 150-200  $\text{ma/cm}^2$ . Tests of electrode No. 6 for duration of operation show that in the first 2 hrs significant decrease of activity takes place and at 200°C and  $E=0.55$  v, current density reaches a constant value of 50  $\text{ma/cm}^2$ . Investigations were also made of the effect of temperature on current density. For electrode No. 4, the log of current density is linearly dependent on temperature in the 150-200°C region. From the slope of this line the energy of activation for the oxidation of ethylene was calculated to be 20  $\text{kcal/mol}\cdot^\circ\text{C}$ . Orig. art. has: 5 figures, 1 table.

SUB CODE: 07,09/

SUBM DATE: 03Apr65/

ORIG REF: 001/

OTH REF: 006

Card 2/2

KRYUKOV, Yu.I.

Manufacturing parts of wood plastics. Mashinostroitel' no.2:34-35  
F '63. (MIRA 16:3)

(Plastics)

KRYUKOV, Yu.M.; MITROPANOVA, Ye.G.; AGAL'TSEVA, N.A.; VINIKAYTIS, G.P.

Results of the use of some new methods of bacteriological diagnosis  
of diphtheria in practical laboratories. Zhur. mikrobiol., epid.  
i immun. 40 no.9:54-57 S'63. (MIRA 17:5)

1. Iz dorozhnoy sanitarno-epidemiologicheskoy stantsii Moskovskoy  
zheleznoy dorogi.

KRYUKOV, Yu.N.; IVANOV, V.A., prof. nauchnyy rukovoditel'.

Formation of postoperative hernias in acute experimental radiation sickness. Khirurgiia 33 no.8:95-97 Ag '57. (MIRA 11:4)  
(ROENTGEN RAYS, eff.  
on form hernia form. in exper. abdom. surg. in rabbits)  
(ABDOMEN, surg.  
exper., hernia form. induced by x-irradiation in rabbits)  
(HERNIA, exper.  
form. in rabbits, induced by x-irradiation after surg. of  
abdomen)

KRYUKOV, Yu.N. (Moskva)

Technic of thyroid surgery. Probl.endok. i gorm. 5 no.1:90-91  
Ja-F '59.

(MIRA 12:3)

(THYROID GLAND, surgery,  
technic (Rus))

KRYUKOV, Yu.N.

Secondary recurrent goiter of giant proportions. Khirurgia 36 no. 5:131-  
132 My '60.

(GOITER)

(MIRA 14:1)



TUCHENKO, M.M., kand.med.nauk; SIDYAKOV, P.V., kand.tekhn.nauk; MATYTSKAYA, V.S.,  
kand.med.nauk; KRYUKOV, Yu.S., vrach

Ways of improving working conditions during the manufacture of ship  
structures of fiberglass. Sudostroenie 28 no.5:61-64 My '62.

(MIRA 15:7)

(Shipbuilding—Hygienic aspects) (Glass-reinforced plastics)

YEVYUKOV, Yu.S.; POLYAKOVA, T.S.

Sanitary and hygienic aspects of the manufacture of PM-1  
make polyester resins. Plast. massy no. 2:19-21 '62.

(MIRA 17:8)

"APPROVED FOR RELEASE: 04/03/2001

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KRYUKOVA, A.

We are proud of our personnel. Prof.-tekh. obr. 22 no.10;  
16-17 0 '65. (MIRA 18:10)

1. Sekretar' Kolyvanskogo Rayonnogo komiteta Kommunisticheskoy  
partii Sovetskogo Soyuza, Novosibirskoy oblasti.

KRYUKOVA, A.A.; LOSHKAREV, M.A.

Effect of films of sparingly soluble inorganic compounds on the  
rate of electrode processes. Trudy DKHTI no.16:63-73 '63.  
(MIRA 17:2)

APIUKOVA, A.

25390

O Prirode Nizkogo Predel'nogotoka Pri Razrayade Ionov Olova.  
Zhurnal Fiz. Khimii, 1948, vyp. 7, s. 805-13—B ibliogr: S. 81.

SO: LETOPIS NO. 30, 1948

KRYUKOVA, A.  
25389

Vliyanie Kontsentratsii Poverkh-Nostnoaktivnykh Veshchestv Na Predelbnyy.  
Tokpri Katodnom Usazhdenii Olova: Zhurnal Fiz. Khimii, 1948, vyp. 7, s. 815-22.  
Bibliogr: s. 822.

SO: LFTOPIS NO. 30, 1948



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Effect of the concentration of surface-active substances on the limiting current in the cathodic deposition of tin. M. Lomskirev and A. Kryukova. *Zhur. Fiz. Khim.* (J. Phys. Chem.) 22, 115-22 (1948); cf. preceding abstr. Tin was deposited from solns. contg. 15 g.  $\text{Sn}^{2+}$ , 94 g.  $\text{H}_2\text{SO}_4$ , and 1 g. gelatin per l. The limiting c.d. ( $D$ ) of this soln. was about 10 ma./sq. cm. It was not affected by addn. (up to 0.4 or 0.2 mol./l.) of pure phenolsulfonic (I) or pure cresolsulfonic acid (II). *n*-Phenylamine and *o*-naphthol lowered  $D$  more, the greater the amt. added up to the satn. (0.2 or 0.75 g./l.); at satn.  $D$  was 0.7 or 0.5 m-Cresol also was active. Phenol lowered  $D$  to 1.8 in 0.15  $M$  soln.; other concns. yielded greater  $D$  values. Presumably, at the concn. corresponding to the min.  $D$ , formation of a multimol. adsorption layer starts. Mixts. of phenol and I behaved almost as if no I were present. This shows that neutral molts. affect  $D$  while ions do not. Addn. of phenol to solns. satd. with xylenol, thymol, or *o*-naphthol reduced the effect of these surface-active substances; when the phenol concn. was 0.4 mol./l., the solns. behaved as if almost no surface-active substance were present. This shows that phenol displaces xylenol, etc., from the adsorption layer. Addn. of I to solns. satd. with xylenol, etc., had no effect. In all instances, the electrodeposits were smooth when  $D$  was small. The results agree with the 2nd mechanism (preceding abstr.) The small surface activity of I was shown also by electrocapillary curves of Hg in aq.  $\text{H}_2\text{SO}_4$  in the presence of I and of phenol. I was prepd. from phenol and  $\text{HNO}_3$ ,  $\text{H}_2\text{SO}_4$  at first  $110^\circ$  and then room temp. The crude prod. was pptd. as Ba salt which was decompd. with  $\text{H}_2\text{SO}_4$ . II, made from a cresol and oleum at  $105^\circ$ , was transformed first into Ba salt and then Pb salt, and the soln. obtained after pptg. PbS was purified with active C. J. J. B.

**Polarization and surface adsorption phenomena of electrodes.** M. Lushkarev and A. Kryukova. *Doklady Akad. Nauk S.S.S.R.* 62, 97-100 (1948).--The effect of adsorbed layers of org. compds. on the cathodic discharge of metal cations is demonstrated by curves of polarization potential vs. current intensity for 0.05 N solns. of salts of Ag, Cu, Bi, Ti, Pb, Sn, Cd, and Zn 1.0 N in the corresponding acid and satd. simultaneously with 2-naphthol, thymol, and PhNH<sub>2</sub> at a dropping-Hg cathode. In all cases with the exception of Ag<sup>+</sup> and Ti<sup>4+</sup>, the discharge is inhibited considerably, as evidenced by a very low residual current, down to polarizations  $E$  of -1.00 to -1.18 v., where the residual current regains the normal intensity of the pure solns., and from where the current intensity begins to rise rapidly with further increasing cathodic polarization. This region is very close to that, -1.20 to -1.35 v., where the electrocapillary curve (surface tension as a function of  $E$ ) of Hg in a Na<sub>2</sub>SO<sub>4</sub> soln. satd. with the 3 above-named org. compds. coincides with its electrocapillary curve in a pure Na<sub>2</sub>SO<sub>4</sub> soln. Furthermore,

the curve of the capacity  $C$  of the Hg electrode, as a function of  $E$ , shows, in the presence of the org. compds., a sharp peak at about -1.20 v.; at low - $E$ , i.e. in the region close to zero charge of the Hg surface,  $C$  is markedly lower than in pure Na<sub>2</sub>SO<sub>4</sub>; the rise, leading to the peak, begins at about  $E$  = -0.9 to -1.0 v.; beyond  $E$  = -1.40 v., the  $C$  coincides exactly with those of the pure soln. In conjunction with Frumkin's interpretation of the peak of the electrocapillary curve as a consequence of desorption

processes, the curves prove that discharge of metal cations is inhibited by adsorbed layers of org. compds. until the desorption potential is reached. The weak residual current flowing across the adsorbed layer may be the result either of sporadic discharge of ions at discontinuities in the adsorbed film, or of uniform penetration, through the continuous layer, of ions activated to a higher energy level. The 1st interpretation is clearly contradicted by the considerable differences between different cations; this indicates specific effects rather than a generally valid "free spot" mechanism which would only be consistent with minor differences, det'd. by differences of mobility of ions. Final proof of the correctness of the 2nd interpretation is supplied by current-intensity polarization potential curves of Cu<sup>2+</sup> + Sn<sup>2+</sup> on a dropping-Hg cathode. While the pure electrolytes (metal sulfate 0.05 N, H<sub>2</sub>SO<sub>4</sub> 1.0 N), separately or mixed, give normal curves, in the presence of 0.15 mole/l. PhOH discharge of Cu<sup>2+</sup> is inhibited, that of Sn<sup>2+</sup> remains unaffected by the PhOH film. The curve of the mixed reproduces the behavior of the sep. salts; down to  $E$  = -0.4 v., the curve shows only the very weak residual current of Cu<sup>2+</sup>, then it rises along the discharge curve of Sn<sup>2+</sup>, finally, at the  $E$  corresponding to desorption of PhOH, the curve deviates from the natn. current of Sn<sup>2+</sup> and follows that of the discharge of Cu<sup>2+</sup>. Consequently, prior to desorption, the film inhibits the discharge of Cu<sup>2+</sup> ions but is fully penetrable for Sn<sup>2+</sup> ions. Analogous effects are observed in the simultaneous discharge of Cu<sup>2+</sup> + Ti<sup>4+</sup>, Ag<sup>+</sup> + Cd<sup>2+</sup>, etc. These specific effects indicate an activation mechanism of the interaction between cations and the adsorbed film. N. Thom

~~SECRET~~, A.

USSR/Chemistry - Polarization

Feb 49

"A New Form of Chemical Polarization: I, Cathode Separation of Metals on Mercury Where Admixtures Are Present," M. Loshkarev, A. Kryukova, Ivanovo Chemicotechnol Inst, 12 pp

"Zhur Fiz Khim" Vol XXIII, No 2

Studied polarization in the separation of a number of metals on mercury from solutions saturated with beta-naphthol, thymol, diphenylamine, and other surface-active substances. Established that the adsorption layer forming on mercury in electrolytes saturated with surface-active substances named has a marked retarding effect on discharge of  $\text{Cu}^{++}$ ,  $\text{Bi}^{++}$ ,  $\text{Pb}^{++}$ ,  $\text{Sn}^{++}$ ,  $\text{Cd}^{++}$  and  $\text{Zn}^{++}$  ions and has considerable permeability with respect to  $\text{Ag}^{+}$ ,  $\text{Hg}^{++}$ , and  $\text{Tl}^{+}$ . Submitted 3 Jan 48

PA 47/49T18

1st and 2nd copies		3rd and 4th copies	
PROCESSING AND PROPERTY INDEX			
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<p>A New Form of Chemical Polarization. (in Russian)          1. Cathodic Deposition of Metals on Mercury in the Presence of Addition Agents. M. Lashkarev and A. Krivukova. II. Experimental Evidence of the Existence and Investigation of the Properties of Adsorption Layers. M. Lashkarev, A. Krivukov, and A. Krivukova. <i>Zhurnal Fizicheskoi Khimii</i> (Journal of Physical Chemistry), v. 23, Feb. 1949, p. 209-231.</p> <p>The above was investigated for solutions saturated with <math>\beta</math>-naphthol, thymol, and diphenylamine, and other surface-active compounds under different conditions. Relationship of surface tension and capacity of the double layer on potential was determined for pure solutions of <math>\text{Na}_2\text{SO}_4</math> and for those saturated with surface-active agents. Conditions for discharge of various metal ions under the action of the above were established.</p>			
A10-11.4 METALLURGICAL LITERATURE CLASSIFICATION		REMARKS	
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	

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CA

A new type of chemical polarization. III. Effect of organic additions on the overvoltage during liberation of hydrogen and chromium and charge variation of titanium and vanadium ions. M. A. Loshtarev and A. A. Kryukova (Inst. Chem. Technol., Dnepropetrovsk, Ukraine). *Zhur. Fiz. Khim.* 23, 1457-63 (1949); cf. C.A. 43, 8314c. - Deposition of Cr from 0.06 N  $\text{Cr}_2(\text{SO}_4)_3 + \text{N H}_2\text{SO}_4$  on a dropping-Hg cathode was retarded by org. addns.; e.g., at the voltage  $V = -1$  v. the current was 0.15 milliamp. in noncontaminated soln., and 0.007 and 0.010 when the soln. was satd. with camphor or eugenol, resp. At  $V = -1.35$  v. the addns. became noneffective. The effects of PhAc, PhNH<sub>2</sub>, 2-naphthol, eugenol, thymol, camphor, and  $(\text{PhCH}_2)_3\text{N}$  on the H overvoltage were similar. Heyrovsky, et al. (C.A. 41, 8402f) found that addns. affected deposition of Zn, Pb, etc., but not of Ag and Tl<sup>+</sup>, and concluded that discharge of multivalent ions has another mechanism than discharge of univalent ions. This was disproved by the effect of thymol, etc. on the reactions  $V^{3+} \rightarrow V^{2+}$  and  $\text{Tl}^{3+} \rightarrow \text{Tl}^{2+}$  at the cathode and the reverse reactions at the anode. The retardation due to addns. disappeared at  $V$  more neg. than  $-1.1$  v. and more pos. than  $0.1$  v., i.e. at voltages causing desorption. The  $V^{3+}$  soln. was 0.1 N and contained N  $\text{H}_2\text{SO}_4$ ; and the Tl soln. was 0.1 N  $\text{Tl}_2(\text{SO}_4)_3 + \text{N H}_2\text{SO}_4$ . J. J. H.

Changes of polarographic waves under the action of adsorption processes on mercury. M. A. Loshkarev and A. A. Kopylova. (Dnepropetrovsk Chem. Technol. Inst.). *Doklady Akad. Nauk S.S.S.R.* 72, 919-22 (1960). —In the regular polarographic curve of 0.5 N  $\text{CuSO}_4$ , with a high max. in the range 0 to -0.7 v. and the horizontal portion of normal diffusion current extending to the evolution of  $\text{H}_2$  at -1.2 v., addition of gelatin suppresses the max. completely, whereas 0.005 M xylidine suppresses it only partially; the max. is preserved at potentials more positive than -0.5 (i.e. + 0.2 relative to the zero charge potential  $\phi$ ). With 0.005 and 0.01 M  $\text{PhCH}_2\text{OH}$ , the current intensity  $i$ , in the neighborhood of  $\phi$ , falls to about half the normal diffusion current intensity, and is restored only at about -0.6 to -0.7 v. This effect, indicating marked irreversibility of the electrode process, is even more pronounced with camphor; a very narrow peak is followed by a sharp fall of  $i$  to about 1/10 of the normal value, and then by a slow rise to the level of the diffusion  $i$ , beginning only at -0.8 v. This type of inhibition of the electrode process, as distinct from the mere effect of suppression of surface motion of the  $\text{Hg}$ , is proper only to a limited no. of surface-active substances, those which form the closest-packed adsorbed films. Most effective in that respect are homologs of  $\text{PhOH}$  (xylidine, carvacrol, *m*-cresol, thymol), ethers of  $\text{PhOH}$  (phenetole, eugenol, anethole), 1 and 2-naphthols, the camphane group

(camphor, borneol), secondary and tertiary aromatic amines (diphenylamine, trihexylamine, diethylaniline), aromatic alcohols ( $\text{PhCH}_2\text{OH}$ ), menthol, etc. An example of a relatively weak action, with a wide range of adsorption potentials, is the effect of 0.05 g./l. of 2-naphthol; the polarographic wave appears to be split in two, one wave, corresponding to reversible reduction, lying in the same range of potentials as in pure solns., the other lying in the range of beginning deformation of the adsorbed film as a result of desorption, with the sum of the heights of the 2 waves equal to the normal wave height in pure solns. The lowering of  $i$  by 0.2 M  $\text{PhCH}_2\text{OH}$  is so strong that it may simulate absence of  $\text{Cu}^{++}$  and presence of other ions. In the case of  $\text{Cd}^{++}$ , the deposition potential of which is more negative than  $\phi$ , polarization impairs the conditions for adsorption and, consequently,  $\text{PhCH}_2\text{OH}$  causes no more than a shift of the position of the wave and a change of its slope. Similar effects are observed with Cr, Pb, Sn, Zn, and  $\text{Hg}$ . The inhibition by surface-active substances may lead to complete suppression of the polarographic wave, with continuous transition to the  $\text{H}_2$  curve.

N. Thon

KRYUKOVA, A. A.

"Effect of Ionic Adsorptive Layers on the Kinetics of Cathode Separation of Metals on Mercury." Sub 7 May 51, Order of the Labor Red Banner Sci Res Physicochemical Inst imeni L. Ya. Karpov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55



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3024. Change of polarographic waves under the influence of adsorption processes on the mercury. M. Likharev and A. Kryukova (U. anal. Chem., USSR, 1961, 8, 166-177).—The interference of surface-active substances (added to suppress the tangential motion of the Hg drop in polarography) on the kinetics of certain electrode reactions is discussed with particular reference to the case of phenols, camphans, and aromatic amines and alcohols. With  $\text{CuSO}_4$  in  $\text{H}_2\text{SO}_4$ , whilst a small concn. of gelatin completely suppresses the max. between 0 and  $-0.7$  v., giving a const. diffusion current, benzyl alcohol reduces the max. but gives a much lower current at voltages around  $-0.4$ , the anodic limit of diffusion current as in the pure solution with or without gelatin being attained at  $-0.7$  v., and cathodic limits the current due to Cu so disappears completely over the whole range up to  $-0.7$  v. With  $\text{CdSO}_4$  in  $\text{H}_2\text{SO}_4$ , the Cd step gradually disappears with progressively increasing concn. of tribenzylamine until no wave appears when the solution becomes saturated. Many similar phenomena are described. They are due to an adsorbed layer on the Hg acting as a potential barrier against the penetration of discharging ions. G. R. SMITH.

ASB-56A METALLURGICAL LITERATURE CLASSIFICATION

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CA

4

Effect of triethylamine on the electrocrystallization of tin. A. A. Kopylova and M. A. Lomskarev. *Doklady Akad. Nauk S.S.S.R.* 81, 1097-1100 (1981). -- The effect of the typical electrolyte  $(\text{PhCl}_2)_3\text{N}$ , 0.015 M/l., on the electroreduction of Sn from a soln.  $\text{Sn}^{++}$  0.27,  $\text{H}_2\text{SO}_4$  2 N, at 20°, as contrasted with the effects of nonelectrolyte addn. agents, is illustrated by current-polarization curves and plots of the limiting c.d.  $D_L$  (milliamp./sq. cm.) and polarization  $\eta$  (v.): with thymol (std.) (I) 0.3 and 0.490; with  $\text{Ph}_3\text{N}$  (std.) (II) 0.0 and 0.420; with  $\beta$ -naphthol and thymol (std.) (III) 0.36 and 0.700; with  $(\text{PhCl}_2)_3\text{N}$  0.015 M (IV) 0.46 and 0.793. With simultaneous addn. of gelatin, 1 g./l., to I, 0.93 and 0.810; to II, 0.39 and 0.420; to III, 0.23 and 0.670; to IV, 0.23 and 0.805. With I and II, smooth deposits are obtained only with simultaneous addn. of gelatin; this is not necessary with IV. The relation between  $\eta$  and  $D$  is described satisfactorily by  $\eta = a - b \log (D - D_L)$ . With IV, raised temp. (to 40°) lowers  $\eta$  less than with I or II. N. Thon

KRYUKOVA, A.A.

USSR/Chemistry - Electrolysis, Polaro- May 52  
graphy

"The Effect of Adsorption Layers on the Discharge of Monovalent Metals on Mercury," M. A. Losharev, A. A. Kryukova, Chem-Technol Inst, Dnepropetrovsk

"Zhur Fiz Khim" Vol XXVI, No 5, pp 731-736

Cathodic deposition of Tl from acidic sols is inhibited by tribenzylamine or tetrabutylammonium, particularly at low temps. It is much more difficult to lower the rate of discharge of Ag ions, but tetrabutylammonium does produce a double lowering of the limiting current (min at  $E = -0.8$  V). At low temps, the inhibiting effect is increased, 219710

just as with Tl. Aniline also produces strong inhibition of discharge of Ag ions. These results show that typical electrode reactions of the 1st order, i.e., those accompanied by the transfer of one electron, can be inhibited by adsorption layers of org cations (layers of neutral org compds proved to be ineffective). This proves that the views of Heyrovsky's school on the mechanism of electrode reactions are wrong and that the USSR theory of chem-polarization by adsorption is correct.

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KRYUKOVA, A.A.; LOSHKAREV, M.A.

Characteristics of the retarding effect of surface active agents  
on electrode processes. Part 1. The discharge of univalent ions.  
Zhur. fiz. khim. 30 no.10:2236-2243 0 '56. (MIRA 10:4)

1. Khimiko-tekhnologicheskii institut, Dnepropetrovsk.  
(Surface active agents) (Electrodes, Dropping mercury)

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S/138/61/000/002/005/008  
A051/A129

11.2320 also 2915  
AUTHORS: Grinberg, A.Ye.; Tsvetkov, A.I.; Yal'tseva, Ye.P.; Makeyeva, A.R.;  
Peschanskaya R.Ya.; Prashchikina, N.P.; Prashchinkina, A.S.; Kryu  
kova, A.B.

TITLE: Furfurhydramide and its vulcanization activity

PERIODICAL: Kauchuk i rezina, no. 2, 1961, 25 - 29

TEXT: The Soviet rubber industry uses diphenylguanidine as a nitrogen-con-  
taining accelerator with a basic nature. Its production is based on toxic and  
inflammable materials (aniline, carbon sulfide, lead silicagels and isopropyl al-  
cohol). An attempt was made to find a cheaper nitrogen-containing organic base.  
Furfurhydramide was tested in combination with sulfur accelerators as an acceler-  
ator of vulcanization. A method for producing the furfurhydramide from cheap and  
accessible raw materials was developed. It is an nitrogen-containing organic base  
which can be used as a vulcanization accelerator in combination with altax, captax  
or thiuram. In mixtures based on natural rubber and a series of synthetic rubbers  
containing diphenylguanidine in combination with altax or captax, furfurhydramide  
can be used instead of diphenylguanidine. It increases the durability of the

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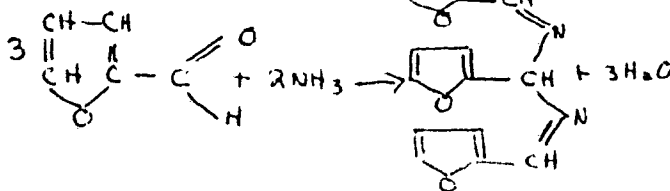
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A051/A129

**Furfurhydramide and its vulcanization activity**

vulcanizates in repeated deformations. When it is used in combination with captax, altax or thiuram in mixtures based on natural and a number of synthetic rubbers, the rate of vulcanization does not change and vulcanizates are obtained with satisfactory technical properties. Its use extends the assortment of vulcanization accelerators and decreases the consumption of captax, altax, diphenylguanidine and thiuram. Its physical and chemical characteristics are: finely crystalline powder of straw-yellow color with  $d_4^{20}$  1.15 - 1.16, melting point when crystallized from ethyl ether 117 - 118°C. It is easily soluble in methyl, ethyl and isopropyl alcohol, acetone, ether, benzene, but is insoluble in water. The molecular heat of combustion at  $P = \text{const.}$  is 1,828.15 cal, at  $V = \text{const.}$  it is 1,827.87 cal. Acids decompose it to furfurole and ammonium, when boiled in diluted alkali it is converted to the isomer base furfurin. It absorbs ultraviolet rays, whereby its color changes to a dark brown. It has a specific furfurole odor. It is produced from furfurole and ammonium according to the following equation:





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S/138/61/000/002/0050008

A051/A129

Furfurhydramide and its vulcanization activity

Commercial furfurhydramide melts at 110 - 115°C. Its nitrogen content is 10.41% calculated and 10.20 - 10.30% found. Obtained data showed that when natural rubber is heated in the presence of furfurhydramide and sulfur, there is a significant decrease of the plasticity, whereas the plasticity of natural rubber containing only sulfur or furfurhydramide hardly changes at all when heated under the same conditions. It is concluded that furfurhydramide strengthens the structuralizing effect of sulfur. It does not affect the inclination of the mixtures to scorching. There are 3 tables, 4 figures and 8 references: 2 Soviet, 4 English and 2 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut resinovykh i lateksnykh izdeliy  
(Scientific Research Institute of Rubber and Latex Articles)

Card 3/3

GRINBERG, A.Ye.; FRISHMAN, T.A.; PESCHANSKAYA, R.Ya.; KRYUKOVA, A.B.;  
KRYLOVA, V.N.

Vulcanizing action of some derivatives of dithiocarbamic acid.  
Kauch. i rez. 22 no.8:32-35 Ag '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy konstruktorsko-tekhnologicheskiy institut asbestovykh tekhnicheskikh izdeliy.

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920004-0

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920004-0"

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920004-0

ACCESSION NR: AP5018211

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920004-0"

L 16743-66 EWT(m)/EMP(t) IJP(a) JD

ACC NRI AP6003639

SOURCE CODE: UR/0078/65 010/010/2329/2332

AUTHOR: Berul', S. I.; Kryukova, A. I.

ORG: none

TITLE: Fusibility in calcium tungstate and LiCl, NaCl, KCl systems

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 10, 1965, 2329-2332

TOPIC TAGS: tungstate, calcium compound, lithium chloride, sodium chloride, potassium chloride, phase diagram

ABSTRACT: Melting point diagrams of  $\text{CaWO}_4$ -LiCl (NaCl, KCl) systems were studied visually up to 5-11 mol %  $\text{CaWO}_4$  and thermographically up to 95 mol %  $\text{CaWO}_4$  at 1100°C and the liquidus curves were obtained. In the  $\text{CaWO}_4$ -LiCl system, the eutectic corresponds to 3 mol %  $\text{CaWO}_4$  and 590°C and no chemical compounds or solid solutions are formed up to 95 mol %  $\text{CaWO}_4$ . In the  $\text{CaWO}_4$ -NaCl system, the eutectic corresponds to 1.5 mol %  $\text{CaWO}_4$  and 796°C; a eutectic line up to 95 mol %  $\text{CaWO}_4$  was confirmed. In the  $\text{CaWO}_4$ -KCl system, the eutectic corresponds to 2.3 mol %  $\text{CaWO}_4$  and 758°C. The eutectic line extends almost up the ordinate of  $\text{CaWO}_4$ . The heating curves show that in these systems, at contents up

UDC: 541.123+546.32/.34'131+546.786'41

Card 1/2

L 16743-66

ACC NR: AP6003639

to 95 mol %  $\text{CaWO}_4$ , the solid phases consist of the original components.  $\text{CaWO}_4$  has a transition at  $1085^\circ\text{C}$ . Orig. art. has: 4 figures, 3 tables.

SUB CODE: 07/ SUBM DATE: 11Apr64/ ORIG REF: 004/ OTH REF: 001

Card 2/2 vmb

MOISEYEV, V.D.; NEYMAN, M.B.; KHYUKOVA, A.I.

Thermal degradation of polypropylene. Vysokom.soced. 1  
no.10:1552-1557 0 '59. (MIRA 13:3)

1. Institut khimicheskoy fiziki AN SSSR.  
(Propene)

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920004-0

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920004-0"



USSR/General Problems of Pathology - Tumors. Filtrable Factors.

U

Abs Jour : Ref Zhur Biol., No 1, 1959, 4169

Author : Zil'ber, L.A., Kryukova, A.N.

Inst : -

Title : A Hemorrhagic Disease of Rats Produced by the Virus of the Chicken Sarcoma

Orig Pub : Vopr. virusologii, 1957, No 4, 239-243

Abstract : Pregnant rats (common breed and Wister) were submitted to laparotomy and 16-18-day-old embryos were injected with 0.025-0.05 ml of supernatant fluid of an extract of chicken sarcoma. The newborn rats were again injected with Rous's virus (0.2 ml) at the age of 7 days, in some experiments repeatedly. In control experiments embryos and neonates were injected with an extract of normal chicken muscle. Within 2-3 weeks following the last injection of Rous's virus numerous cysts with hemorrhagic transudate appeared in a part of the tolerating small rats.

Card 1/2

- 25 -

USSR/General Problems of Pathology - Tumors, Filtrable Factors. U

Abs Jour : Ref Zhur Biol., No 1, 1959, 4169

4 of 7 diseases rats died. Upon autopsy numerous hemorrhages in the internal organs were discovered. No manifestations of hemorrhagic disease were observed in control young rats. -- R.M. Radzikhovskaya

Card 2/2

KRYUKOVA, A. P.

"An Attempt to Restore an Endemic Herd from 'Skin-Leishmaniose' in Turkomen,"  
Dokl. AN SSSR, 30, No.1, 1941

Branch of Med. Parasitology, Inst. Experimental Medicine

KRYUKOVA, A. P.

PA 14/L9T93

USSR/Medicine - Parasitology  
Medicine - Parasites

Jul/Aug 48

"Genesis and Evolution of Leishman-Donovan Body,"  
A. P. Kryukova, N. I. Latyshev, Sector of  
Parasitology, and Med Ecol, Inst of Bacteriol,  
Epidemiol, and Infectious Diseases, Acad Med Sci  
USSR, 18 pp

"Zhur Obshch Biol" Vol IX, No 4

Treats subject under: (1) geographic data; (2)  
historical data; (3) genetic data; (4) conclusion.  
Submitted 16 Aug 46.

14/L9T93

KRYUKOVA, A.P.; SHOSHINA, M.A.; SUVOROVA, L.G.; SHEKHANOV, M.V.

Epizootic foci of Borovskii's disease in Kara-Kum. Vop.kraev., ob.  
i eksp.paraz. i med.zool. 9:25-31 '55. (MIRA 10:1)

1. Iz otdela parazitologii i meditsinskoy zoologii (zav. akad.  
Ye.N.Pavlovskiy) Instituta epidemiologii i mikrobiologii imeni  
N.F.Gamaleya (dir. - deystvitel'nyy chlen Akademii meditsinskikh  
nauk SSSR prof. G.V.Vygodchikov) Akademii meditsinskikh nauk SSSR.  
(KARAKUM--LEISHMANIOSIS) (GEBRIIS) (MOTH FLIES)

Preparing inner soles by the viscose method. A. S. Kopylov. *Izvestiya Tsentral. Nauch.-Issledovatel. Inst. Kozhennoi Prom.* 1932, No. 3, 3-4.—Viscose inner soles are usually prep'd. as a plate by the method developed by the Central Inst. of Leather Research in Moscow; 50% of pulp cellulose and 50% "linter" are used. The plates are then treated with rubber and polymerized oils. The rubber is introduced in the viscose in a benzene soln. and water and CaO and ZnO or casein are added as emulsi-

bers. The plates are elastic but become brittle after some time. The polymerized oils are also introduced in a benzene soln. These plates have a higher elasticity (without plasticizers) than hollow ones and have a lower swelling and water-adsorbing factor. The oils were polymerized as follows: 100 parts of flaxseed or hemp-seed oil + 50 pts. resin were heated for 4-5 days to 200°C. A mixt. of polymerized oils and rubber on being introduced in a benzene soln. into rubber yielded brittle plates.

A. A. Ben-Hung

030-364 METALLURGICAL LITERATURE CLASSIFICATION

12

Preparation of artificial leather from polymerized oils.  
A. S. Koryukova. *Otdelenie Tekhnicheskoy Khimii* 1932, No. 10, 29-31. -Vegetable oils were polymerized with rosin; in some cases catalysts such as Mn, Co and Zn linoleates and resinsates were used. The products had plastic properties resembling those of rubber, they were less unatd. and were chemically more stable than the original substances. They could not be vulcanized by the methods ordinarily used for rubber, and introduction of fillers did not have the desired effect. Cardboard impregnated with the polymerized product was water-resistant and elastic. The introduction of the boiled polymerizate into viscous oil improved its properties. The polymerizate can be used as a binder in the prepn. of a leather substitute. A. A. Ikhtinsk

ASD 51.4 METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND SERIES										PROCESSING AND PROPERTY MODEL										3RD AND 4TH SERIES									
BC																				B-II-8									
<p>REPORT OF RESEARCH ON THE PHYSICO-CHEMICAL PROPERTIES OF SOLID-STATE ALLOYS. (From: Chin. Chem. Lett., 1980, 7, 99-100). This report describes the mechanical properties of the alloys by their chemical composition and by their physical properties. In the latter case that refers to the composition of the alloys. The results of a study of the chemical composition of the alloys are given. R. T.</p>																													
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION																													
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CIA-RDP86-00513R000826920004-0

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920004-0"

RYUKOVA, A. S.

USSR :

Increased resistance to friction of dyed fabric. V. A. Rylina and A. S. Ryukova, *Tekstil. Prom.* 15, No. 2, 27-40(1958). Resistance to friction (rubbing) of fabrics dyed with S, ice, vat, mordant, and basic dyes can be increased by additives, stabilizing the colloidal soln. of the dye and thus preventing dye aggregates formation on the surface of the fabric. Elizabeth Harabash

AUTHORS: Aleksandrova, Ye. M., Kryukova, A. S. SOV/156-58-3-27/52

TITLE: A Method for the Quantitative Determination of the Aminomethyl Quaternary Salts of the Polyglycol Esters of Alkyl Phenols (Metod kolichestvennogo opredeleniya chetvertichnykh soley aminometilirovannykh poliglikolevykh efirov alkilfenolov)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 510 - 512 (USSR)

ABSTRACT: Two new optical methods for the determination of the concentration of aqueous solutions of the cation active auxiliary agents in the visible and ultraviolet spectrum were suggested. This determination is based upon the fact that the cation active auxiliary agents form colored complexes with some aqueous acid dyes. Acid blue-K was used as the acid dye, since it exhibits an optimum sensitivity with cation active auxiliary agents at 610mμ. The analyses were carried out in highly acidic media, especially in sulfuric acid solution. This method may be applied to concentrations up to  $0.3 \cdot 10^{-4}$  mole/l (0.03 g/l). Smaller concentrations of cation active auxiliary agents are determined in the ultraviolet range at a wave length of 276mμ without the use of acid dyes. There are 1 figure, 1 table, and 8 references.

Card 1/2

A Method for the Quantitative Determination of the  
Aminomethyl Quaternary Salts of the Polyglycol Esters of Alkyl Phenols

SOV/156-58-3-27/52

4 of which are Soviet.

ASSOCIATION:

Kafedra kolloidnoy khimii Moskovskogo khimiko-  
tekhnologicheskogo instituta im.D.I.Mendeleyeva (Chair of  
Colloidal Chemistry at the Moscow Chemical and Technological  
Institute imeni D.I.Mendeleev)

SUBMITTED: November 11, 1957

Card 2/2

ARKHIPOVA, T.N., starshiy nauchnyy sotrudnik; KRYUKOVA, A.S.; SIBIRTSEV, S.L.;  
LEZZHOVA, L.V.

Crease resistant finish for rayon staple fabrics. Tekst. prom. 18  
no.11:27-33 N '58. (MIRA 11:12)

1. Tsentral'nyy nauchno-issledovatel'skiy institut khlopchatobumashnoy  
promyshlennosti (for Arkhipova). 2. Nauchnyy rukovoditel' gruppy Nauchno-  
issledovatel'skogo instituta organicheskikh poluproduktov i krasiteley  
im. K. Voroshilova (for Kryukova). 3. Glavnyy inzh. Pervoy sitsenabivnoy  
fabriki (for Sibirtseva). 4. Nachal'nik laboratorii Pervoy sitsenabivnoy  
fabriki Moskovskogo gossovnarkhoza (for Lezzhova).  
(Textile finishing) (Rayon)

5 (4)

**AUTHORS:**

Aleksandrova, Ye. M., Kryukova, A. S. SOV/76-33-6-15/44

**TITLE:**

Determination of the Length of the Polyethylene Glycol Chain and of the Mean Molecular Weight of Quaternary Salts of Aminomethylated Polyglycol Ethers of Alkyl Phenol (Opredeleeniye dliny polietilenglikolevoy tsepi i srednego molekulyarnogo vesa oshetvertichnykh soley aminometilirovannykh poliglikolevykh efirov alkilfenola)

**PERIODICAL:**

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1263-1268 (USSR)

**ABSTRACT:**

New surface-active substances were investigated, that were first synthesized at the Institute mentioned in the Association. With respect to chemical structure they represent quaternary salts of dialkyl aminomethyl derivatives of polyethylene glycol ethers with polyethylene glycol chains of different lengths; they are used for equalizing in wool dyeing. An optical method was applied, by which the light absorption is investigated in the ultraviolet spectrum. Measurements were made on the photoelectrical spectrophotometer SF-4 in the wave range 240-290 m $\mu$  in quartz cuvettes (1 cm) in concentrations of 0.5 g/l. The solutions were found to obey

Card 1/3

Determination of the Length of the Polyethylene Glycol SOV/76-33-6-15/44  
Chain and of the Mean Molecular Weight of Quaternary Salts of Aminomethylated  
Polyglycol Ethers of Alkyl Phenol

Beer's law (Table 1). The quaternary ammonium group does not disturb the benzene sulpho acid spectrum in the wave range applied (Table 2). Measuring results (Table 3) show that the absorption spectra of the substances investigated obey the law of additivity. On the strength of these results an inverse proportionality could be assumed between the optical density and the mean molecular weight (MW), and the latter could be determined. On the basis of equation (5) as well as the method (Ref 9) the length of the polyethylene glycol chain was determined, and results obtained were compared (Table 4). The results obtained by both ways agree well with one another. Also data are supplied concerning the quantity of benzene sulpho acid in the equalizing agents (Table 5). There are 1 figure, 5 tables, and 9 references, 8 of which are Soviet.

Card 2/3

Determination of the Length of the Polyethylene Glycol SOV/76-33-6-15/44  
Chain and of the Mean Molecular Weight of Quaternary Salts of Aminomethylated  
Polyglycol Ethers of Alkyl Phenol

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley im.  
K. Ye. Voroshilova Khimiko-tekhnologicheskii institut im.  
D. I. Mendeleyeva Moskva (Institute of Organic Semiproducts  
and Dyes imeni K. Ye. Voroshilov, Chemico-technological  
Institut imeni D. I. Mendeleyev, Moscow)

SUBMITTED: October 31, 1957

Card 3/3



5.5300,5.1220

77941

SOV/65-60-3-14/19

AUTHORS: Taubman, A. B., Konstantinova, V. V., ~~Kryukova, A. S.~~

TITLE: Determination of the Critical Concentration of Micelle Formation of Surface-Active Substances

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, Nr 3, pp 61-66 (USSR)

ABSTRACT: Determination of critical concentration ( $C_{cr}$ ) of micelle formation of synthetic nonionic and anionic surfactants is carried out by titration of their aqueous solutions with a suitable dye solution. Two dyes, pinachanin chloride and rhodamine 6G extra, were used in these experiments, as well as the several surfactants shown in Table 1. The results of experiments are shown in Table 2 and compared with those obtained by conductometric and spectrophotometric methods. The suggested method can be used for any type of surfactants, provided a suitable dye is chosen, and no special equipment is required. The

Card 1/5

Determination of the Critical Concentration  
of Micelle Formation of Surface-Active  
Substances

77941

SOV/65-60-3-14/19

error of determination is  $\pm 2\%$ , and reproducibility is good. There are 2 tables; 2 figures; and 13 references, 10 U.S., 3 Soviet. The 5 recent U.S. references are: Gerstman, J. W., J. Phys. Chem., 61, 581 (1957); Mc Bain, M. E. L., Hutchinson E., Solubilization and Related Phenomena, New York, 29, (1955); Goddard, E. D., Jones, T. G., Res. correspond. 8, Nr 8, 41 (1955); Corrin, M. L., Harkins, W. D., J. Am. Chem. Soc., 69, 679, 683 (1947); Kleven, H. B., J. Phys. Coll. Chem., 51, 1143 (1947).  
ASSOCIATION: Institute of Physical Chemistry of the Academy of Sciences of the USSR (Institut fizicheskoy khimii AN SSSR)

Card 2/5

77941 SOV/65-60-3-14/19

Table 1. Surface-active Compounds.

No.	Formula	Molecular Weight
1	$\begin{array}{c} \text{O}(\text{C}_2\text{H}_5\text{O})_{n-1}\text{C}_2\text{H}_5\text{OH} \\   \\ \text{C}(\text{CH}_3)_2 \\   \\ \text{C}(\text{CH}_3)_2 \end{array} \quad n = 6$	515
2	$\begin{array}{c} \text{O}(\text{C}_2\text{H}_5\text{O})_{n-1}\text{C}_2\text{H}_5\text{OH} \quad n = 10 \\   \\ \text{C}_6\text{H}_{17} \end{array}$	647
3	$\text{C}_6\text{H}_{17}\text{OOC}-\text{CH}_2-\text{CH}(\text{SO}_3\text{Na})-\text{COO}-\text{C}_6\text{H}_{17}$	444
4	$\begin{array}{c} \text{SO}_3\text{Na} \\   \\ \text{C}_6\text{H}_4 \quad \text{CH}_3 \\   \quad   \\ \text{CH}_2-\text{C}-\text{CH}_2-\text{C}-\text{CH}_2 \\   \quad   \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$	297

Card 3/5

(Table 1 continued)

77941 SOV/65-60-3-14/19

NR	FORMULAS	MOLECULAR WEIGHT
5	$\begin{array}{cccc} \text{CH}_3 & \text{CH}_3 & \text{CH}_3 & \text{CH}_3 \\   &   &   &   \\ \text{CH}_2 & \cdot \text{C} & \cdot \text{CH}_2 & \cdot \text{C} & \cdot \text{C}_6\text{H}_5 & \cdot \text{C} & \cdot \text{CH}_2 & \cdot \text{C} & \cdot \text{CH}_3 \\   & &   & &   & &   & &   \\ \text{CH}_3 & & \text{CH}_2\text{SO}_2\text{NaCH}_3 & & \text{CH}_3 & & & & \end{array}$	405
6	$\begin{array}{c} \text{CH}_3 \\   \\ \text{SO}_2\text{Na} \cdot \text{C}_6\text{H}_4 \cdot \text{C} \cdot (\text{CH}_2)_2 \cdot \text{CH}_2 \\   \\ \text{CH}_3 \end{array}$	333
7	$\begin{array}{c} \text{SO}_2\text{Na} \cdot \text{C}_6\text{H}_4 \cdot (\text{CH}_2)_2 \cdot \text{CH} \cdot (\text{CH}_2)_2 \cdot \text{CH}_3 \\   \\ (\text{CH}_2)_4 \\   \\ \text{CH}_3 \end{array}$	333
8	$\begin{array}{c} \text{SO}_2\text{NaC}_6\text{H}_4 \cdot \text{CH}_2 \cdot \text{CH} \cdot \text{CH}_2 \cdot \text{CH} \cdot \text{CH}_2 \\   \\ (\text{CH}_2)_4\text{CH}_3 \\   \\ \text{CH}_2 \cdot \text{CH}_2 \cdot \text{CH}_3 \end{array}$	345

Card 4/5

Table 2. The values of  $C_{cr}$  (moles/liter) measured by different methods. 77941 SOV/65-60-3-14/19

(2)	(1)			
	(4)	(5)	(6)	(7)
1	$1.8 \cdot 10^{-3}$	—	—	—
2	$4.9 \cdot 10^{-4}$	—	$1.4 \cdot 10^{-3}$	—
3	$5.4 \cdot 10^{-3}$ ( $2.6 \cdot 10^{-3}$ )	—	$3.8 \cdot 10^{-4}$	—
4	$8.4 \cdot 10^{-3}$	( $2.6 \cdot 10^{-3}$ )	$4.5 \cdot 10^{-3}$ ( $2.7 \cdot 10^{-3}$ )	$5.1 \cdot 10^{-3}$
5	$1.0 \cdot 10^{-3}$	$10.0 \cdot 10^{-3}$	—	$8.4 \cdot 10^{-3}$
6	$3.0 \cdot 10^{-3}$	$1.0 \cdot 10^{-3}$	—	$0.9 \cdot 10^{-3}$
7	$3.3 \cdot 10^{-3}$	$2.4 \cdot 10^{-3}$	—	$3.3 \cdot 10^{-3}$
8	$1.7 \cdot 10^{-3}$	$2.7 \cdot 10^{-3}$	—	$3.3 \cdot 10^{-3}$
	$1.1 \cdot 10^{-3}$	$1.7 \cdot 10^{-3}$	—	$1.6 \cdot 10^{-3}$
		$1.1 \cdot 10^{-3}$	—	$1.1 \cdot 10^{-3}$

Key: (1) Surfactants; (2) colorimetric titration; (3) Pina-cyanin chloride; (4) Rhodamine 6G-extra; (5) Spectrophotometry (pina-cyanin chloride); (6) Electric conductivity at 40°; (7) 6 + electrolytes.

Card 5/5

ARKHIPOVA, T.N.; KRYUKOVA, A.S.; BABKINA, V.G.

"Glikasin" sizing agent. Tekst.prom. 20 no.4:54-55 Ap '60.  
(Melamine) (Sizing (Textile)) (MIRA 13:8)

ARKHIPOVA, T.N.; KOZLOVA, V.S.; KRYUKOVA, A.S.; SEMELEVA, I.S.

High-quality crease resistant finishing of cotton fabrics. Tekst.-  
prom. 21 no.5:67-68 My '61. (MIRA 15:1)  
(Cotton finishing) (Crease resistant fabrics)

ARKHIPOVA, T.N., kand.tekhn.nauk; KRYUKOVA, A.S., inzh.

Effect of light and weather as well as repeated laundering  
on cotton fabrics sized with cyclic ethylene urea "carbamol."  
Tekst.prom. 21 no.11:68-71 N '61. (MIRA 14:11)

1. Sotrudnik TSentral'nogo nauchno-issledovatel'skogo in-  
stituta khlopchatobumazhnoy promyshlennosti (TSNIKhibi) (for  
Arkhipova). 2. Sotrudnik Nauchno-issledovatel'skogo  
instituta organicheskikh poluproduktov i krasiteley (NIOPik)  
(for Kryukova).

(Cotton sizing) (Urea)



KRYUKOVA, A.S.; LAPINA, R.A., kand.tekhn.nauk; MIZUCH, K.G., kand.khim.nauk

Finish preparations with a dimethylolalkyltriazone base. Tekst.  
prom. 22 no.8:62-64 Ag '62. (MIRA 15:8)

1. Sotrudniki Nauchno-issledovatel'skogo instituta organicheskikh  
poluproduktov i krasiteley (NIOPK).  
(Textile finishing) (Triazinone)

KRYUKOVA, A.S.; LAPINA, R.A., kand.tekhn.nauk; MIZUCH, K.G., kand.-  
khimicheskikh nauk

Finishing preparations with a base of dimethylolalkyltriazone.  
Tekst.prom. 22 no.9:16-19 3 '62. (MIRA 15:9)

1. Sotrudniki Nauchno-issledovatel'skogo instituta organicheskikh  
poluproduktov i krasiteley.

(Textile finishing)

151 AND 152 (REVISED) PROCESSES AND PROPERTIES

Light filters from indanthrene dyes. M. S. Zel'tser and O. K. Kravtsov. *J. Tech. Phys.* (U.S.S.R.) 14, 373-84 (1944).—Light filters having a high stability to light and heat (80°) are obtained by soaking films of cellulose diacetate at 20-60° in a soln. prepd. by mixing dye (1.64 g., glycerol 1 cc., NaOH 2.81M, 2 cc., water 10 cc., Na hyposulfite 0.5 g., and water 40 cc., heating at 80° for 30 min., and adding 180 cc. of water. The dye in the film is then oxidized in air. The indanthrene dyes used and the wave lengths (in mμ) of their max. absorption are: dark blue H0 (480,700), brilliant green B (476), brilliant green TF (476), brilliant violet RB (460,700), golden yellow GK (673-700), red RK (676-700), chloroindanthrene CCN (426), brown R (710), and brilliant pink (700). Mixts. of these dyes give light filters of other permeabilities.

J. J. Biharian

STEPANENKO, B. N., KRYUKOVA, G. K.

Glucodises

Method for synthesizing -phenolglucosides. Dokl. AN SSSR 86 no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 195~~7~~, Uncl.  
2